

REMARKS

A. The Status of the Claims and the Amendments

Claims 116-184 are pending. By the present communication claim 116 has been amended to more particularly define the Applicant's invention. As amended, the claims are supported by the specification and the original claims and add no new matter. The support for the ultrasonic frequency range of "750 kHz to 3 MHz" is found in the specification at page 69, line 4. It is submitted that the amendments place the claims in condition for allowance, or in better condition for appeal. Accordingly, entry of the amendments is respectfully requested.

B. Priority

The Applicant has noted that the Examiner accepted the argument concerning the priority date of the current application (page 2, fourth paragraph of the Office Action). To summarize, the Applicant considers it settled that the instant application has the effective filing date of the parent application Serial Number 08/666,129 (now U.S. Patent No. 6,033,645). This effective filing date is June 19, 1996 (MPEP § 706.02).

C. Double Patenting Rejection

Claims 116-131, 138-141, 146-151, 160, 164, 168-174, and 178-184 have been rejected under the non-statutory, judicially created doctrine of obviousness-type double patenting over the pending claims of the co-pending application Serial Number 09/218,660 (page 3, fourth paragraph of the Office Action). While the Applicant respectfully traverses this rejection, it is believed that this issue has become moot in view of the terminal disclaimer which accompanies this response. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

D. Rejection Under 35 U.S.C. § 102(b)

Claims 116-131, 138-140, and 160 have been rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Siegel et al. (U.S. Patent No. 5,695,460) (page 4, first paragraph, of the Office Action). This rejection is respectfully traversed on the following grounds.

First, the Applicant directs the Examiner's attention to the fact that the effective filing date of the present application (06/19/96) is earlier than the issue date of the Siegel et al. patent (12/09/97). Therefore, the Siegel et al. reference cannot be used against the claims of the present application for § 102(b) purposes. For the record, the Applicant presumes that what the Examiner meant was § 102(e) rejection.

It is axiomatic that a valid rejection of a claim for anticipation by a reference requires that the reference explicitly or inherently describe all of the elements, limitations, and relationships recited in the claim. It is submitted that Siegel et al. do not describe all the elements and limitations recited in claim 116, as amended.

In particular, the method claimed in the present application includes applying ultrasound energy to the patient. Siegel et al. fails to disclose that the ultrasound energy that is applied has "the frequency between about 750 kHz and about 3 MHz," as recited in claim 116, as amended. Siegel et al. teaches using the low frequency ultrasound of under 100 kHz (see, Col. 5, lines 32-33). Thus, the Siegel et al. reference neither expressly nor inherently describes each and every element of the invention as claimed in claim 116.

In view of the foregoing, claim 116 is patentably distinguishable over Siegel et al. Claims 117-131, 138-140, and 160 depend on claim 116 and are patentable for at least the same reason. Accordingly, reconsideration and withdrawal of the rejection of claims 116-131, 138-140, and 160 are respectfully requested.

E. Rejections Under 35 U.S.C. § 103(a)

Claims 141 and 146-151 have been rejected under 35 U.S.C. § 103(a) (page 7, third paragraph, of the Office Action) as allegedly being unpatentable over Siegel et al. This rejection is respectfully traversed on the following grounds.

To establish a *prima facie* case of obviousness, the three basic criteria must be met: (1) there must be some suggestion or motivation to modify the reference as proposed by the Examiner; (2) there must be a reasonable expectation of success and (3) the prior art reference must teach or suggest all of the claim limitations. MPEP § 2143. Applicants submit that at least two of the above criteria have not been met.

First, not only is there no suggestion or motivation to modify the Siegel et al. reference, but also there is an explicit teaching away from such combination. Indeed, Siegel et al. discourage from using high frequency ultrasound by stating that “it has been found that when ultrasound is applied at a lower, **rather than a higher frequency**, the effectiveness of the method is markedly enhanced” (see, Col. 5, lines 29-31) (emphasis added). Siegel et al. also teach that “high intensity, low frequency ultrasound does have an effect on clot dissolution” (see, Col. 5, lines 59-60).

Therefore, it is submitted that one skilled in the art would not be motivated to modify the teachings of Siegel et al., because the teachings of Siegel et al. are in direct contradiction with such modification.

Second, based on Siegel et al. reference, there could be clearly no reasonable expectation of success when using high frequency ultrasound when Siegel et al. directly and unambiguously teach the opposite. In view of the foregoing, the Applicant does not consider that the *prima facie* case of obviousness made by the Examiner is valid.

Accordingly, claim 116 is patentably distinguishable over Siegel et al. Claims 141 and 146-151 all depend on claim 116 and are considered patentable for at least the same reason.

One additional reason for which claim 141 is considered patentable over the Siegel et al. reference is that Siegel et al. do not disclose “perfluorocarbon gas .. selected from ... perfluoromethane, perfluoroethane, perfluoropropane, perfluorobutane and

perfluorocyclobutane,” as recited in claim 141. The only fluorinated product disclosed by Siegel et al. is dodecafluoropentane (Col. 5, line 52), which is also known as perfluoropentane, and not one of the products recited in claim 141.

Dodecafluoropentane is not even a gas as required by claim 141 but a liquid. The Examiner has not explained how one skilled in the art, reading the teaching of Siegel et al. requiring a pefluorinated gas, will be motivated to use a liquid instead. It is submitted that there is no such motivation and there is no suggestion anywhere in Siegel et al. to use a gas.

For all of the reasons set forth above, it is respectfully submitted that the rejection of claims 141, and 146-151 under 35 U.S.C. § 103(a) over Siegel et al. does not properly apply. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Claims 116-131, 138-141, 146-151, 160, 164-166, 168-174, and 178-184 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Siegel et al. in view of Porter (U.S. Patent No. 5,648,098) (page 8, paragraph 3 of the Office Action). The rejection is respectfully traversed on the following grounds.

As mentioned above, Siegel et al. disclose that ultrasound is applied at frequencies lower than about 100 kHz, such as between 25 and 53 kHz (Col. 5, lines 32-34). Siegel et al. fail to disclose using ultrasound energy having a frequency of “750 kHz to 3 MHz,” as recited in claim 164. Porter discloses the ultrasound frequencies of “20 kHz to several MHz” (Col. 4, lines 48-49) and generally teaches to use “3 to 5 MHz” (Col. 4, lines 49-50).

The Examiner seems to use the disclosure of Porter to cure the deficiency of Siegel et al. to make a *prima facie* case of obviousness. It is submitted, however, that combining Siegel et al. and Porter is impermissible in this case.

Not only is there no suggestion or motivation to combine the Siegel et al. and Porter references, but also there is an explicit teaching away from such combination. Indeed, Siegel et al. teaches away from using high frequency ultrasound, as discussed above. If the disclosure of Porter is to be applied, using any frequency disclosed by

Porter which is over 100 kHz will be in conflict with what is taught by Siegel et al. Clearly, one skilled in the art will not be motivated to combine such contradictory teachings because there will not be reasonable expectation of success.

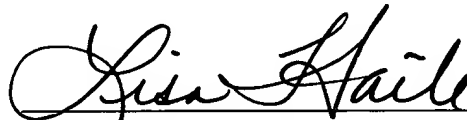
Accordingly, it is submitted that claims 116 and 164 are patentably distinguishable over the combination of Siegel et al. and Porter. Claims 117-131, 138-141, 146-151 and 160 depend, directly or indirectly on claim 116 and are considered patentable for at least the same reason. Claims 165, 166, 168-174, and 178-184 depend, directly or indirectly on claim 164 and are considered patentable for at least the same reason. Reconsideration and withdrawal of the rejection of claims 116-131, 138-141, 146-151, 160, 164-166, 168-174, and 178-184 have been rejected under 35 U.S.C. § 103(a), as allegedly being unpatentable over Siegel et al. in view of Porter, are respectfully requested.

CONCLUSION

In view of the above amendments and remarks, reconsideration and favorable action on all claims are respectfully requested. In the event any matters remain to be resolved, the Examiner is requested to contact the undersigned at the telephone number given below so that a prompt disposition of this application can be achieved.

Respectfully submitted,

Date: August 6, 2004

A handwritten signature in cursive script, reading "Lisa A. Haile", written over a horizontal line.

Lisa A. Haile, J.D., Ph.D.
Registration No. 38,347
Telephone: (858) 677-1456
Facsimile: (858) 677-1465

GRAY CARY WARE & FREIDENRICH LLP
4365 Executive Drive, Suite 1100
San Diego, California 92121-2133
USPTO Customer Number 28213